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REMARKS

In the Official Action, claims 12-15 were rejected under 35 USC §102(b) as being anticipated by either the Guergov patent (U.S. No. 6,019,918) or the Shah et al. patent (U.S. No. 5,558,824). By this Amendment, claim 12, which is the only independent claim in the case, has been amended to further distinguish the applicant's invention from the prior art. With this Amendment, it is submitted that neither of the prior art references, whether taken individually or in any permissible combination, disclose or suggest the inventive combination of features forming the Applicant's invention as set forth in the amended claims.

The Applicant's invention provides an improved gas-assisted injection molding system for making parts and components in which a spill-over cavity is not utilized or required. The part mold is sealed and initially pressurized to a pre-specified pressure. An infinitely pressure-controlled valve is utilized to control the pressure of the gas in the mold. A pressure switch is utilized to control the operation of the gas pressure valve. As the plastic material is injected into the mold, the initial pressurized gas increases in value until it reaches a pre-specified or predetermined pressure.

When the injected pressure has compressed the pre-charged gas pressure to the maximum pre-selected pressure as set in the gas pressure valve, any excess pressure will be vented. The pressure is then held constant in the mold cavity. Pressurized gas is then injected into the plastic material in the mold cavity. The gas forces the plastic material

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into all of the portions of the mold and forms a hollow cavity in the material. The remaining plastic material is injected into the mold cavity sufficient to make the completed molded part. When substantially all of the plastic material is injected into the mold cavity, the pressure valve allows venting of the pre-pressurized gas at a controlled rate and pressure. The plastic material is forced throughout the extremities and extent of the mold cavity. Once the plastic material is solidified and cooled sufficiently to make the part self-supporting, the pressurized gas inside the hollow cavity in the molded part is vented, the mold is open, and the part is ejected from the mold cavity. A pressure switch is utilized to control the operation of the gas pressure valve.

It is submitted that neither of the references disclose or suggest the use of an infinitely adjustable pressure control valve for removing the gas from the mold cavity as the plastic material is injected into it and later when it is necessary to allow the plastic material to completely fill the mold cavity. In this regard, independent claim 12 has been amended to more specifically define that valve. As a result, it is submitted that the present invention is patentably distinguishable from the cited references.

In addition, new claim 16 has been added to bring out that pressure switch 41 is used to control the operation of the infinitely adjustable pressure control valve. The pressure switch is shown in the drawings, and the specification has been amended herein to specifically make reference to it. Paragraph [0028] has been amended in this manner.

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The pressure switch has been designated reference numeral 41 and Figure 1 of the drawing has been amended accordingly.

In view of the foregoing, it is submitted that all of the claims remaining in the case, namely claims 12-16, are in proper form and patentably distinguish from the prior art. Accordingly, allowance of the claims and passage of the application to issuance are respectfully solicited.

Respectfully submitted,

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